



# the Ring

*"The only time people are really learning is when they begin formulating their own questions rather than answering questions other people have formulated."*

Michael Gresser, winner of SFU's Excellence in Teaching Award, 1984.

University of Victoria

Volume 10, Number 11, March 30, 1984

## New equipment unlocks doors for biologists



From left Dietrich, Singla, and Fontaine

The installation of the only complete analytical electron microscope system in Western Canada suitable for X-Ray microanalytical research in biology was completed this month in the UVic Electron Microscope Laboratory in the Cunningham Building.

This addition to the EM lab, acquired at a cost of \$400,000 with a grant from the Natural Sciences and Engineering

Research Council of Canada and university funds, is a marvel of high technology, says biologist Dr. Arthur Fontaine, EM lab supervisor.

Called STEM for Scanning and Transmission Electron Microscope, the system can operate as a scanning electron microscope to observe surfaces at high resolution producing three-dimensional often strikingly beautiful images, or in the trans-

mission mode which penetrates to the interior of thin sections for high magnification images.

The EM lab was previously equipped with microscopes which perform these separate functions. The distinctive feature of the new equipment is that it can perform the scanning and transmission functions simultaneously which allows resolution of objects within relatively thick sections.

Not only can things such as thin sections of cells or kidney stones be subjected to morphological scrutiny, Fontaine explains. With the analytical devices attached, X-Ray spectra from the specimen under study are picked up through a highly complex detector system and the information fed into the computer, programmed to analyze the energy content of the X-Ray in a way which will reveal the specimen's chemical structure.

In short, says Fontaine "we can visualize a minute object in the interior of whatever is being studied and then determine its essential chemical composition."

The ability to analyze any substance under study chemically is a "fantastic advance" for biologists at UVic and has attracted the attention of potential users doing biological studies throughout B.C. and the entire Pacific Northwest region, he adds.

Since the new equipment was installed, Fontaine has been busily acquainting himself with the intricacies of operating the new equipment. He is joined in this by research associate Dr. Chaman Singla, and both biologists are assisted by Jack Dietrich, senior scientific assistant, who

has operated and maintained the increasingly complex and impressive equipment in UVic's growing EM lab since 1968.

One use for the new system which will engage the Biology Department's attention once the use of the equipment is mastered is research into newly-discovered animals living in hot vents in the ocean. Recent discoveries by UVic biologist Dr. Verena Tunnicliffe of new species living in hot vents in the floor of the Pacific have excited the biological community through the world.

These animals live in metal rich sulphides normally toxic to animal life. They must have mechanisms to detoxify these substances and organs which store or remove them. With the new equipment in the UVic lab, biologists will be able to analyze the whole process, says Fontaine.

Many other research projects will benefit from the availability of this marvel of new technology, and the equipment will serve an ongoing use as an aid to fundamental research for pollution studies, he adds.

"We who are concerned with the operation of the EM Laboratory are coming to realize that it has grown to dimensions with implications beyond the users within the department and university. Gradually the EM lab has become a major university facility that will come to have increasing regional importance as users outside the university take advantage of its capabilities," says Fontaine.

## Health Information Sciences co-op students are in demand

Employer demands for students in UVic's Health Information Science Co-op Program is so high that there are not enough students to fill the available co-op positions this summer, says program director Prof. Denis Protti.

"There are 34 co-op positions available for 23 students with another six positions possible," says Protti. "The demand comes from throughout Canada, and includes requests from employers who have not even been contacted by the co-op coordinator."

The program is continuing for 1984-85 at its present level, Protti assures students, but adds that he can only admit about 30 of the students of the 100 or more who are expected to apply.

"We are in the ironic position of being one of the few areas in a recessionary economy where we can demonstrably create an increase in employment above present levels, but lack the funding needed to develop the program", he says. "The removal of emergent funding severely stifled our growth."

To combat these problems, Protti is initiating a fund-raising operation outside the university with the goal of providing operating funding presently unavailable because of budgetary constraints.

"The Vice-President Academic has given us authority to proceed and we have already started the fund-raising drive. We have identified potential sources of funds, and are looking at a five-year fund-raising program."

The five-year span is necessary, explains Protti, because the funding is needed for operating costs, especially faculty salaries.

"We have to be able to offer the three-year appointments at the very least before we can hope to attract the type of faculty required to bring the necessary instructional expertise to the program," he notes.

The fund-raising areas to be concentrated on include provincial governments other than British Columbia's; the federal government and, possibly, foundations.

The appeal to other provincial governments will be based on precedents set by programs such as Veterinary Medicine at the University of Saskatchewan, and Optometry at the University of Waterloo, in which a program is designated as regional rather than provincial.

A recent Health Manpower Study, produced for the four western provinces at their request by a private consultant, recommends that the UVic program be designated in this way.

If that recommendation is accepted, it would mandate funding for the program from all four provinces rather than just from British Columbia.

"This is now actively being considered", says Protti, "and there is considerable support for this idea throughout western Canada, and across Canada generally. The support comes from Ministries of Health, hospitals, research groups, and the private sector companies involved in supporting the health care sector—just about everybody involved in managing health-related information."

The high level of regional and national support for the program reflects demand for its unique approach to solving a growing problem in health care—the effective use of masses of data that must be turned into usable information for the welfare of patients and effective management of resources.

Based on computer technology, and including a strong component on human relations needed in a complex setting such as a hospital with many levels of professional activity, the program is designed to prepare students to implement, maintain, and evaluate health information systems for hospitals, public health organizations, research organizations and private industry.

The high demand for students in the program, even before any have graduated, has prompted Protti to consider the federal government as a second potential funding source on the basis of its job-creation potential.

"There are precedents for this type of funding awards in the B.C. mining industry, and also at the University of Manitoba", he notes.

The demand for students is related to the complexity of Canada's health care system in which the cost of data handling alone contributes between 25 and 40 per cent of the total cost of the system.

"The health care sector at all levels is becoming aware very rapidly that performance levels and service can be improved significantly by tying into the information

technology revolution.

It is also being recognized that this is essential to meet increasing demands on the system as the population ages at the same time resources are being re-assigned and a ceiling is placed on health care funding.

Protti points out that a large hospital may in one day process up to 4,000 laboratory orders, 10,000 physicians' orders and as many as 70,000 drug and treatment orders."

"The health care sector is beginning to look at information as a resource that has to be effectively managed if appropriate levels of service and safety are to be maintained."

At present, those Canadian health services that are using computers do so primarily to handle financially related information, he notes. "The other systems are still manual, and rapidly becoming overburdened."

"Private sector groups who will benefit from the type of thing we are doing include insurance agencies, private medical plans and drug companies."

"As the flow of information increases, so does the need to analyse it more stringently. Research uses for data for epidemiology development of high risk patient profiles and disease prevention are increasing", Protti notes.

"Everybody, not just our graduates, has a stake in improving the health care system in Canada", he says.



# Universities must define goals



Clark: 'a very painful process'

It is not clear that universities in Canada will survive the next five years in anything like the form they now take, or how many will even survive, says Dr. Howard Clark, Vice-President Academic of the University of Guelph.

Speaking on the topic "The Future of Canadian Universities" last week at UVic, Clark said that each university must go through the very painful process of deciding on the role of the institution in the next few years.

"We are well beyond the time when we can expect one institution to carry all the disciplines", he said. "Every university must enter into some very difficult discussions on what their institution's goals are to be over the next five to 10 years."

The result of these discussions should be a statement about the ways the institution can be distinguished from other universities.

"It will be a very difficult and very painful process, but if you don't do it, the consequences will be worse," warned Clark.

Canada has one of the finest post-secondary systems anywhere, he noted, with almost 60 institutions offering respected undergraduate programs, at least 30 offering graduate programs of international calibre and as many with very substantial research programs.

This level of development was the result of growth demanded and very strongly supported by Canadian society in the 1960s, but in the 80s, society has a very different perception of universities.

"The community has come to expect very high quality education and research from universities and there is little argument that the universities brought and do bring enormous economic, social and cultural benefits to the community.

"But the public perception of the value of a university degree has changed, and there seems to be some disillusionment with the promise the universities seemed to hold out in the sixties, even though there is ample evidence that university graduates do far better than others in seeking and finding jobs.

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"The 80s are not the 60s and universities are no longer perceived as a very high priority."

The end result is that the public has a very confused perception of the universities in the 80s, he suggests.

While the expectation of high quality education and research remains, the community wants more from the universities. The "more" includes greater community access to the institution based on the clear sense that universities are not contributing enough to the community.

"It is certainly clear that the relationship must change. The universities cannot wait to hear what the community has to say. The university must initiate and enter into much greater dialogue and must explain clearly what it does, and only when that relationship is defined will support develop."

Citing an Organization for Economic Cooperation and Development (OECD) study in response to a question on how the universities might become more involved in the community, Clark noted that European universities had conducted a number of experiments on this issue.

Saying that not all the examples were relevant to North America, he suggested a general approach on which decisions could be made was apparent.

The first step involves the university identifying what the community's needs are over and above the university's normal teaching role. The university must then decide whether or not to state the most appropriate solution to the community's problems and the university must further decide if it should take steps to help apply the solution.

"The further the university goes in this process, the greater the fear, and even the appearance that the university's autonomy is being eroded. The experience of the European universities was that this was not the case in practise. Instead, the university is regarded as even more autonomous and stronger than before."

Two other principle factors will also help determine the future of Canadian universities, Clark adds.

They are the attitudes and ideas students and those who have been students over the last five years take away from the university, and the attitude of faculty toward the institution.

Clark said before students leave the university they should be asked questions such as

- Do you really know what a university is like, what the nature of the university is?
- Have you felt you were being trained to do a job, or have you been given skills usable in many circumstances?
- Have you learned that science is a human endeavour, not a remote activity?
- Are you aware of what research is? Are you aware of what research the faculty who teach you are doing?
- Are you aware of the intricate ways the universities govern themselves?

"Only if students can answer yes to all these questions and others like them can we be sure that the universities' future is in good hands."

The attitude of faculty members toward the institution has changed over the last 20 years, Clark says.

"Faculty member loyalty has swung from the institution to the discipline they teach and research. If this trend cannot be reversed, the health of an institution cannot be preserved. I am not talking about a major change. A slight shift in the balance between the institution and the discipline is all that is required."

Much of the ill-health that Canadian universities are suffering now can be attributed to the rapid growth of the last 10 years, Clark believes.

Little thought has been given about the purpose of that growth.

"I do not believe the fundamental problem is underfunding. It is deeper than that. There must be some very solid discussion about institutional purpose."

"I am reasonably optimistic that universities will survive. They are too strong as institutions to go down in the next 40 to 50 years. What is not clear is what form they will take next."

## gazette

The Board of Governors reports the following proceedings from the regular meeting of March 19, 1984.

### Resignations

The Board of Governors acknowledged receipt of the following resignations, effective as shown:

Sonia Birch-Jones, Alumni Affairs Coordinator, Community Relations, effective April 30, 1984 (early retirement).

Reginald Ralph, Manager, Purchasing Services, effective April 30, 1984 (early retirement).

Jennifer R. Waelti-Walters, chairman, Department of French Language and Literature, effective April 30, 1984 (Dr. Waelti-Walters will continue to hold her position as professor within the Department.)

### Special Appointments

John C.E. Greene, associate professor, Department of French Language and Literature, appointed chairman, Department of French Language and Literature, effective May 1, 1984 to June 30, 1987.

Penny A. Parry, assistant professor, School of Child Care, appointed Director, School of Child Care, effective July 1, 1984 to June 30, 1986.

Gerald A. Poulton, associate professor, Department of Chemistry, appointed chairman, Department of Chemistry, effective July 1, 1984 to June 30, 1989.

Roger A. Ruth, associate professor, Department of Psychological Foundations in Education, reappointed chairman, Department of Psychological Foundations in Education, effective July 1, 1984 to June 30, 1985.

### New appointment—faculty

William W. Wadge, B.A. (Brit.Col.), Ph.D. (Calif.-Berkeley), Victoria, B.C. appointed associate professor, with tenure, Department of Computer Science, effective July 1, 1984.

The Senate reports the following proceedings from the 205th meeting of March 7, 1984.

### Admission Requirements

The Senate adopted a proposal from the Committee on Academic Standards that would provide for alternative admission requirements for individual Faculties in place of the general requirements adopted by the Senate in 1983 with respect to Language 11 and Science 11 courses.

### Two-Year Course Offerings Plan

The Senate decided that Departments and Schools should, as far as feasible, outline yearly a Two-Year Undergraduate Course Offerings Plan, inform students of the plan and designate in the Calendar the courses that they expect to offer each year. This plan is to be submitted annually to the Office of the Dean and is to be subject to the availability of resources.

### Rescheduling of Examinations

The Senate also decided that, within two weeks of posting the final examination timetable in either term, an undergraduate student having more than two examinations in a day (8:30 a.m. to 10:00 p.m.) on the timetable would have the option of requesting a rescheduling of the individual examination(s). The final decision of which individual examination(s) to reschedule will be made jointly by the Department involved and the Records Services Office.

## 'Puff-jet' sparks grant

A \$34,700 grant to UVic physicist Dr. Reginald Clements has been announced by the Science Council of British Columbia for continued investigation and development of the "puff-jet" ignition system as an efficient method for igniting methane fuel in internal combustion engines.

The grant to Clements is one of 38 awarded this month by the Science Council to support applied scientific research throughout the province. A total of \$1,809,432 has been awarded in this, the Science Council's semi-annual grant competition open to scientists working at universities and in the private and public sector.

Among the grants highlighted by the Science Council this month is one worth \$108,875 which has been awarded to Creo Electronics Corporation of Burnaby to enable the firm to produce a system that uses lasers to store and retrieve data on cards or tape. The extremely new technology being used could mean that the density of information stored could be dramatically increased through the use of optical instead of magnetic tapes. If the three-year research project develops as planned, the work could lead to an important new industry in B.C. with world-wide applications, according to a Science Council release.

Among grants awarded is one worth

\$100,000 to biologist Dr. Ronald Foreman, Director of the Bamfield Marine Station. Foreman has been culturing marine algae, and hopes to show that chemicals extracted from the cultured algae, such as Agar, will be of sufficient quality and volume to produce an economic return which could lead to the establishment of a new industry for B.C.

Another grant of \$37,750 has been awarded to Dr. Tom Calvert of the Computing Science Department of Simon Fraser University, who is working in co-operation with Vertigo Graphics of Vancouver on a computer-assisted filmmaking project. Calvert is doing research designed to lead to development of a new way to produce computer-assisted animation of human figures for the motion picture industry.

The fields of research in which the Science Council awarded grants in this competition were agriculture and food; aquatic sciences; electronics and communications; energy; forest and forest products; manufacturing and machinery; mining, minerals, and metals; and transportation.

Deadline for the next competition for applied scientific research grants is May 4. Applications and information are available from The Science Council of British Columbia, 301-7671 Alderbridge Way, Richmond, B.C. V6X 1Z9.



The Alliance to Defend Education (ADE) drew several hundred students March 23 to a rally in front of the Student Union Building, just before the students left by bus for shopping malls and the downtown area of Victoria, to present concerns about cutbacks in post-secondary education to the general community. The ADE campaign involved handing out leaflets and asking people to sign postcards to be sent to Premier Bill Bennett, urging reconsideration of the elimination of student grants and any possible further cutbacks in funding for universities. Speakers included Dr. Gordon Shrimpton, President of the Faculty Association and Dr. Jennifer Waelti-Walters, chairman of the Department of French Language and Literature.



## UVic honors top athletes at awards banquet

Basketball star Eli Pasquale and Nancy Charlton, a member of Canada's silver medal team at the women's field hockey World Cup championships in Malaysia in 1983, have been chosen UVic's outstanding male and female athletes for 1983-84.

They were among athletes honored at UVic's annual awards banquet March 23. The banquet wrapped up another remarkable season for UVic athletes and teams.

In presenting the awards to UVic's top athletes, Ken Shields, manager of Athletics and Recreational Services, said the choices were difficult ones because of the quality and successes of UVic athletes in the past year.

The 21-year-old Charlton led the Vikettes field hockey team in scoring and was named to all-star teams at the Canada West University Athletic Association (CWUAA) and Canadian Interuniversity Athletic Union (CIAU) levels. She is a member of Canada's national team now preparing for the Summer Olympics in Los Angeles.

Pasquale, the 23-year-old Viking guard, is a member of Canada's national team which won a surprise gold medal at the World University Games in Edmonton in 1983. Pasquale is the lone member of the Vikings to play on five straight CIAU championship teams. He is the all-time leading scorer of the Vikings, a CWUAA and CIAU first-team all-star and was chosen the CIAU player of the year for 1983-84.

President Dr. Howard Petch presented the President's Cup award to Eiko Tabata, a member of the field hockey Vikettes, and Doug Reimer, captain of the Viking volleyball team. This award is presented to the outstanding male and female athletes in his or her fourth or fifth year, who best combine scholastic achievement and athletic ability.

Tabata, a Canadian regional team member since 1981, is in the fourth year of a program in human performance in Physical Education. The 22-year-old has been a



Tabata



Pasquale

member of the B.C. provincial field hockey team as well as all-star teams at the CWUAA and CIAU levels.

Reimer, 22, is a fourth-year Canadian history major, and was named a CWUAA and CIAU all-star in both 1982-83 and 1983-84.

Former chancellor Dr. Robert Wallace, a long-time teacher and administrator at UVic, presented the Robert T. Wallace Shield award to Jackie Graham of the Vikette volleyball team. The award is for an athlete in the first year of varsity competition.

Graham, 19, is a Canadian junior national team member and a CWUAA all-star selection this year.

Rodd McCormick, Viking volleyball manager, was the winner of the Martlet Athletic Award, presented by Ted Sawchuck, director of Student and Ancillary Services while Al Duddridge, manager of the Viking basketball team was chosen outstanding manager. This award was presented by Kathryn Oliphant of Athletics and Recreational Services.



Charlton

### Andrews resigns

Kent Andrews, who started coaching volleyball at UVic in 1969-70, has retired.

Vikette volleyball head coach, Andrews has coached at high school, university, provincial, national and international levels.

"The university is indebted to Kent for his record of distinguished and loyal service to our women's volleyball program," said Ken Shields, manager of athletics and recreational services, in announcing Andrew's retirement.

Andrews, a teacher at Gulf Islands Secondary School, said he no longer has the time necessary to properly fulfill his UVic coaching commitments. He plans to spend more time with his family and complete his masters' degree in physical education at UVic.



Andrews

## Conference explores aging

"Growing and Aging", an educational conference to encourage exchange of ideas and different perspectives on aging, will be held at the Victoria Institute of Gerontology April 12 and 13.

Participants and speakers from UVic participating in the conference will include Dr. Martin Collis of the School of Physical Education, speaking on "Take it Easy, But Take It" at 12 noon April 13 and Dr. Bob Bell of the School of Physical Education who will participate in the afternoon of April 13 in a discussion of "Creative Opportunities for Seniors" during which seniors' experiences in art, music, spirituality, volunteerism and fitness will be explored.

The keynote speaker will be Dr. David Skelton, who will speak on the "Spiritual and Sexual Dimensions of Aging" at 9 a.m. April 12. Sutton will also address a physicians' breakfast session at 7:30 a.m. April 13 on the topic "Frontiers of Geriatric Practice".

Currently professor of Geriatric Medicine and chairman of the division of Geriatric Medicine at the University of Alberta, Edmonton, Skelton has a medical degree from Kings College, London and Westminster Hospital, School of Medicine, and is a priest in the Anglican Church of Canada, Edmonton diocese. He was formerly director and clinical head of geriatric medicine at St. Boniface Hospital, Winnipeg, and established the first Canadian Terminal Care Unit at St. Boniface Hospital.

Dr. B. Lynn Beattie, M.D., associate professor and head of Division of Geriatric

Medicine of the Department of Medicine at the University of British Columbia; Dr. Burton V. Reifler, M.D., director of the Alzheimer Research Program of the School of Medicine, Department of Psychiatry and Behavioral Sciences at the University of Washington; Dr. Roger A.L. Sutton, professor of Medicine in the Department of Medicine at UBC; Rollo Boas, president of the Old Age Pension Association of B.C. and retired Anglican clergyman; Patricia Bovey, Director of the Victoria Art Gallery; Martin James of the Victoria Conservatory of Music, and Institute co-ordinator Geri Toombs will be other presenters at the conference.

Professor Elaine Gallagher of the UVic School of Nursing will moderate a panel discussion April 12 on "Independence—The Issues and Implications".

The Institute, which was set up last year partly with the assistance of UVic professors, provides a downtown centre for older people and their organizations and is concerned with research, education, training, information and community outreach.

Co-ordinator at the Institute, Geri Toombs, received her Bachelor of Science in Nursing degree at UVic in 1982 and has studied gerontology at UVic. Members of the UVic faculty working on the Institute's advisory board are sociologist Dr. Paul Baker, neuropsychologist and Dean of Social Sciences Dr. Louis Costa and Director of the UVic School of Nursing Dr. Dorothy Kergin.

The conference will be held at the Insti-

tute located at the corner of Fairfield and Quadra Street, from the morning of April 12 through the afternoon of April 13. Registration fee is \$40 for the full conference, \$20

for seniors and students and \$20 for a single day. For further information contact the conference registrar at 381-6223. Pre-registration deadline is March 30.



Dr. Alfredo Santiago, at right, Chief of the Aquaculture Department of the Southeast Asian Fisheries Development Centre (SEAFDEC), Santiago met with UVic biologists Dr. Brian Harvey (left) and Dr. Nancy Sherwood to discuss work on their International Development Research Centre (IDRC) grant being used to develop better fish production in the Philippines



# calendar

Monday, April 2nd.

Maltwood Art Museum and Gallery. *Dept. of Visual Arts Graduating Exhibits*. Continues with rotating exhibits until May 2. Gallery hours are 10 a.m. to 4 p.m. Monday to Friday, 12 noon to 4 p.m. Sunday, and during evening events at the University Centre Auditorium.

McPherson Library Gallery. *Paintings by Barry Szekely*. Continues until April 8. Library hours are 8 a.m. to 11 p.m. Monday to Thursday, 8 a.m. to 9 p.m. Friday, 10 a.m. to 10 p.m. Saturday and Sunday. The Depts. of Linguistics and Communications and Social Foundations (Education) present Dr. Stephen D. Krashen, USC, speaking on "Language Learning Research." Senate & Board Room, University Centre.

11:30 a.m. Seminar presented by the Dept. of Biology. Dr. R.P. Pharis, University of Calgary, will speak on "Recent Developments on the Role of Gibberellins in Woody Plant Growth and Differentiation Processes." CUNN 146.

1:00 p.m. Oral Exam. Ene Ann Manni, M.A. Candidate in Geography, will defend her thesis entitled: "Assessing the Political and Institutional Arrangements for the British Columbia Coastal Sand and Gravel Industry." CORN A314.

7:15 p.m. Cinecenta films. *Born in Flames*. Admission charge. SUB Theatre.

9:15 p.m. Lansdowne Lecture Series. Pierre-Jacques Courtois, Professor of Computer Science, Philips Research Laboratory, Louvain University, Brussels, Belgium, will speak on "Time and Space Relations in Complex Structures." Free and open to the public. CLER A306.

8:00 p.m. School of Music Degree Recital—Dawn Whaley, clarinet (M.Mus.). No admission charge. MUSIC BUILDING, RECITAL HALL. Victoria Symphony Orchestra—Du Maurier Series. Tickets are \$10 general admission, \$7.50 for Students and Senior Citizens. University Centre Auditorium.

Tuesday, April 3rd.

12:30 p.m. Tuesdaymusic. Free noonhour recital featuring School of Music students. MUSIC BUILDING, RECITAL HALL. The AMS Solidarity Committee presents the films *Tilt* and *Our Health Is Not For Sale*. SUB Theatre.

2:30 p.m. Pierre-Jacques Courtois, Lansdowne Lecturer (see above), will speak on "Decomposability and Aggregation as Tools for the Analysis of Large-Scale Models." CLER B145. (This topic will also be presented April 4 & 5 in CLER C108, same time.)

3:30 p.m. Oral Exam. Dorinda May Neave, M.A. Candidate in History in Art, will defend her thesis entitled: "Images of Witchcraft in German Art From 1450-1550." CLER C118.

Wednesday, April 4th.

7:00 p.m. The Animal Rights Society presents *The Animals Film*, narrated by Julie Christie. No admission charge. MACL A144.

7:00 p.m. Cinecenta films. *La Nuit De Varannes* (France 1982). Subtitles. Admission charge. SUB Theatre.

8:00 p.m. School of Music Degree Recital—Jose Augusto Molina, violin (B.Mus.). No admission charge. MUSIC BUILDING, RECITAL HALL.

Thursday, April 5th.

12:30 p.m. Lansdowne Lecture Series. Dr. Patrick Echlin, Assistant Director of Research, Botany School, University of Cambridge, England, will speak on "Low Temperature X-ray Microanalysis of Roots of *Lemna minor* L." Free and open to the public. CUNN 146.

10:00 a.m. Seminar presented by the Dept. of Electrical Engineering. Dr. V.K. Bhargava, Dept. of Electrical Engineering, Concordia University, will speak on "The Role of Com-

munications in the Impending Information Revolution and the Extent to Which an Emerging Department Might Contribute in Research in this Area." LHUT 72.

12:30 p.m. Fridaymusic. Free noonhour recital featuring School of Music students. MUSIC BUILDING, RECITAL HALL.

1:30 p.m. Faculty of Law meets. BEGB 205.

1:30 p.m. Seminar presented by the Dept. of Physics. Dr. David Farmer, IOS, will speak on "Influence of Bubbles on Ambient Noise in the Ocean." ELLI 061.

2:30 p.m. Pierre-Jacques Courtois, Lansdowne Lecturer (see above), will speak on "Starvation Prevention and Distributed Control." CLER C108.

7:15 p.m. Cinecenta films. *Quadrophonia*. Admission charge. SUB Theatre.

9:15 p.m. University of Victoria Chamber Singers—Bruce More, conductor, in a program of music by women composers. No admission charge. MUSIC BUILDING, RECITAL HALL.

Friday, April 6th.

Last day of classes in second term (except for Faculty of Human and Social Development, Faculty of Law, and Professional Years in Faculty of Education, TBA).

9:30 a.m. Oral Exam. Betty Ann Collis, Ph.D. Candidate in Psychological Foundations in Education, will discuss her thesis entitled: "The Development of an Instrument to Measure Attitudes of Secondary School Males and Females Toward Computers." MACL A439.

Saturday, April 7th.

7:00 p.m. Zamfir (sold out). University Centre Auditorium.

9:30 p.m. Cinecenta films. *The Dead Zone*. Admission charge. SUB Theatre.

Sunday, April 8th.

9:00 a.m. Vancouver Island Regional Science Fair 1984. Continues until April 9 (9 a.m.-2 p.m.), with awards ceremony at 2 p.m. ELLI Lecture Wing.

7:15 p.m. Cinecenta films. *Children of Paradise* (France 1944). Subtitles. Admission charge. SUB Theatre.

Monday, April 9th.

Examinations begin (except for Faculty of Human and Social Development, Faculty of Law, and Professional Years in Faculty of Education, TBA). McPherson Library Gallery. *Paintings by Jonathon Birgdale*. Continues until April 16.

12:30 p.m. Seminar presented by the Dept. of Biology. Dr. A.D. MacDonald, Chairman, Biology Dept., Lakehead University, will speak on "Shoot Development in Birch." CUNN 146.

7:15 p.m. Cinecenta films. *Children of Paradise*. (France 1944). Subtitles. Admission charge. SUB Theatre.

Wednesday, April 11th.

7:15 p.m. Cinecenta films. *Love on the Run* & (France 1979). Subtitles.

9:15 p.m. Admission charge. SUB Theatre.

# letters

Editor

I would like to thank all of the students who voted for me in the AMS General Election held March 12 and 13. I really enjoyed having the chance to personally talk to hundreds of you while I was out campaigning. I learned a lot about people and made many new acquaintances and friends.

I want to return to students as much as possible in way of services and programs, since all of us contribute about \$60 a year in fees to the AMS. It is difficult to know if I am doing this in the manner you wish, unless you let me hear your views.

Please either call, write a letter, drop by the new offices in the SUB Building (beside Cinecenta), leave a note, or relay a message to me through one of the other executives or directors.

Actively yours for better student government,

Len Molden  
VP Services-elect

# ringers

As part of its 75th anniversary celebration, the Royal Canadian College of Organists is sponsoring an organ and trumpet concert. **Ken Baldwin**, a Master of Music candidate at UVic and a member of the Victoria Symphony Orchestra, and **Heather Crook**, organist and choir-director of Saint John's Anglican Church, will be performing works by Albinoni, Bach, Peeters, and Sowerby. The concert will take place at Saint John's Anglican Church, 1611 Quadra Street, April 7 at 8 p.m. Admission is \$4, and tickets are available at Nelson's Music Centre and Sinfonia Records. For further information, call 592-0171.

They are not building an underground bunker next to University Centre to protect UVic from direct attacks on post-secondary education. What UVic workmen have been doing for several weeks is searching for leaks in the underground heating lines that feed into the Centre. Some of the leaks have proven elusive. The lines have become corroded, explains **Jim Helme**, Director of Buildings and Grounds. "We have located a number of leaks and are making repairs." Helme added that while total expenses have not yet been tabulated, the operation is proving to be a costly one.

In the story on residence rates for 1984-85 (**the Ring**, March 23, 1984) there were two errors. Students sharing a double room in 1984-85 will pay \$2,600, not \$2,530 as reported. The rate for the May-June period remains unchanged from 1983, at \$7.25 a day.

The Senate meeting scheduled for April 4 has been cancelled due to insufficient business for the agenda. The next regular meeting of Senate is scheduled for May 2 at 7:30 p.m. in the Senate and Board Room of University Centre.

Four UVic professors have received grants totalling \$73,088 from the British Columbia Health Care Research Foundation as a result of grant applications made to the foundation in its latest competition. The professors and their research are: **Dr. J.T. Buckley** of the Department of Biochemistry and Microbiology, who will receive \$18,680 for his research project on protein export by gram negative bacteria; **Dr. M.E. Corcoran** of the Department of Psychology, who receives \$20,548 for research into epileptiform effects of neuropeptides; **Dr. D.E. Read** of the Department of Psychology, who receives \$18,680 for neuropsychological assessment of normative intellectual function in older people; and **S.E. Wiltsey** of the School of Nursing, who receives a \$15,000 fellowship towards the Master of Public Health degree in epidemiology and public health.



Smith

Most people on campus know her as Nancy. Nancy Smith has been cleaning offices on this campus since Sept. 15, 1964 and over the past 20 years her New Zealand twang and friendly demeanor have earned her many friends among faculty, students and staff. She has worked in most areas of campus, from University House to, most recently, the Begbie and Phoenix Buildings. Most of her career at UVic, however, was spent keeping the huts tidy. Nancy retires today from the janitorial staff at UVic but she promises to keep in touch with her friends here.

Scientific research tax credits (SRTC's) will be the subject of a Revenue Canada Taxation pamphlet to be issued soon. Revenue Canada says it is prepared to issue advance income tax rulings for the 1983 taxation year on the subject under recent income tax legislation. SRTC's are applicable to special shares, debt, or scientific research financing contracts issued by companies undertaking R&D.

**Ian Cairns**, chartered accountant and senior partner with Price Waterhouse in Victoria, has been named to a three-year term on the UVic Board of Governors. The appointment was announced this month by **Dr. Patrick McGeer**, Minister of Universities, Science and Communications, and Cairns was introduced to the BOG at the March 19 meeting. He is a past president of the Greater Victoria Chamber of Commerce, past president of the Victoria Symphony Society and a past president of the Board of Governors of Glenlyon School. Cairns replaces **James Gray** as a BOG member.



A portrait of British judge Lord Denning, one of the foremost jurists of this century, robed as Master of the Rolls in his chambers in the Royal Court of Justice, was recently presented by his nieces Mrs. Elizabeth Beach of Hampshire, England at right and Mrs. Peggy McGill of Victoria. Denning, who visited UVic in 1979, also sent a handwritten dedication to the students of UVic, past, present and future. Denning, always innovative and sometimes controversial, served at all levels of the British judicial system before his retirement in September, 1979. His opinions and writings have affected legal decisions throughout the English-speaking world. His portrait, a photograph by Bern Schwarz, was exhibited for two years in London, England as part of the exhibition "Great English Contemporaries" and also in New York in the summer of 1983 as part of the British Embassy's "Salute to New York". On hand for the presentation were daughters of the late Mr. Justice Wootton, friends of the Dennings; Law dean Lyman Robinson, right, above, Law Librarian Diana Priestley, and members of the law faculty and Law Students Society.